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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,398	10/30/2003	James Ford Brett	OGC400/02811	7462
24118	7590	02/21/2006	EXAMINER	
HEAD, JOHNSON & KACHIGIAN 228 W 17TH PLACE TULSA, OK 74119			LUKS, JEREMY AUSTIN	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/697,398	<b>Applicant(s)</b> BRETT ET AL.	
	<b>Examiner</b> Jeremy A. Luks	<b>Art Unit</b> 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10-30-2003</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-6 and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brett (6,059,031) in view of Cole (6,244,839).

With respect to Claims 1-5, 9, and 14-20, Brett teaches a whirling mass (Figure 3, #16) attached to a shaft (40); means to rotate said mass (16) in a selected rotational direction to cause said mass (16) to backwards whirl in an opposite rotational direction (Col. 3, Lines 46-50); and means to maintain angular radial position and angular alignment between the ends (44) of said whirling mass (16); and transmitting centrifugal force created by said whirling mass (16) to a downhole casing (Col. 3 Lines 45-55), and transmitting vibrational energy (Col. 4, Lines 32-33).

Brett fails to teach a pair of spaced, coaxially aligned gerotors spaced from each other, each gerotor with an inner gear rotated by a shaft having one less lobe than an outer gear; and a pair of replaceable roller bearings attached to said shaft on opposite ends, each engaging a pair of replaceable sleeves.

Nevertheless, Cole teaches a pair of spaced, coaxially aligned gerotors (Figure 3, #132, 140) spaced from each other, each gerotor (132, 140) with an inner gear rotated by a shaft (121) having one less lobe than an outer gear (Figure 5, #143, 144); and a pair of replaceable roller bearings (138, 139) attached to said shaft (121) on opposite ends, each engaging a pair of replaceable sleeves (126). Cole inherently teaches wherein said inner gear backwards whirls at a speed defined by a factor  $K = n/(N-n)$ , where  $n$  = number of lobes on inner rotor and  $N$  = number of lobes on outer rotor (Figure 5, #143, 144).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rotating mass apparatus of Brett with the gerotor and bearing system of Cole in order to compensate for undesirable pressure effects in a gerotor system while maintaining a simplistic construction and fast-acting performance, and retaining the durability and dependability of the gerotor system.

With respect to Claims 6 and 8, Brett teaches a means (Col. 3, Lines 39-43) to rotate a mass (Figure 3, #16) in a selected rotational direction including a drive shaft (40) with a plurality of U-joints (Figure 1, #24). Cole teaches an inner gear (Figure 3, #132) and bearing (138).

With respect to Claims 10-13, Brett teaches that the backwards-whirling mass (16) is an elongated cylinder with a diameter less than said housing (14) (Col. 3, Lines 30-33), and produces vibration energy that is used in enhanced fluid recovery, and used as a seismic source (Col 4, Lines 32-33).

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brett (6,059,031) in view of Cole (6,244,839), and further in view of Hoffman (5,996,739).

Brett teaches a fluid pump (Figure 3, #32, 34) powered by a shaft (40) (Col. 4, Lines 39-40). Brett fails to teach a self-contained drip lubrication system. On the other hand, Hoffman teaches a self-contained drip lubrication system (Col. 2, Lines 1-17).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the rotating mass apparatus of Brett and gerotor and bearing system of Cole with the a self-lubrication system to reduce friction and wear over time on the internal moving parts. It would have been obvious to use Hoffman's self-lubrication system because it provides a passive gravitational drip lubrication system that includes rate monitoring and control to provide a constant drip lubrication rate at all times, and is simpler and less expensive than actively pumped lubrication systems.

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record related to gerotor and bearing systems for a backwards-whirling mass orbital vibrator are disclosed in the PTO-892.

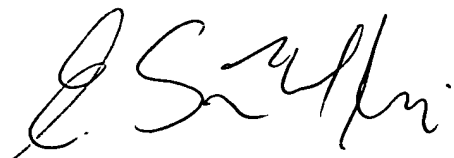
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy A. Luks whose telephone number is (571) 272-2707. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula Bradley can be reached on (571) 272-2800 x33. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jeremy Luks  
Patent Examiner

Art Unit 2837

A handwritten signature in black ink, appearing to read 'Edgardo San Martin', is positioned above the printed name.

**Edgardo San Martin**  
**Primary Patent Examiner**